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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,645	05/07/2007	Jens Kleinfeld	3778	3553

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103 EAST NECK ROAD
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EXAMINER

ROCHE, JOHN B

ART UNIT	PAPER NUMBER
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2184

NOTIFICATION DATE	DELIVERY MODE
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11/13/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

striker@strikerlaw.com

Office Action Summary	Application No. 10/583,645	Applicant(s) KLEINFELD, JENS	
	Examiner JOHN B. ROCHE	Art Unit 2184	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2184

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohner et al. (US 5,437,044), hereafter referred to as Hohner'044 in view of Frenzel et al. (DE3440917), hereafter referred to as Frenzel'917.

3. Referring to claim 1, Hohner'044 teaches a memory-programmable control, aka SPS (stored program control 10 as seen in figure 1 and column 3, lines 39-40) for coupling to a data interface of a personal computer (programming device 19 as seen in figure 1 and column 4, line 7), having means for operating the inputs and outputs of the SPS, the means including keys for tripping machine functions (operating unit 12 as seen in figure 1 and column 3, line 52; keypad 13 as seen in figure 1 and column 3, line 53), characterized in that the keys are embodied

Art Unit: 2184

as pushbuttons (keypad 13 as seen in figure 1 and column 3, line 53) which are provided in addition to the conventional user surface of the PC and which are each electrically connected directly to one of the SPS inputs (multi-pole plug 15 as seen in figure 1 and column 3, lines 55-56); from the conventional user surface of the PC, one of a plurality of key levels, each with selected meanings, stored in memory in the PC, for the pushbuttons is selectable (programming device 19 can modify the program of control device 10 as seen in figure 1 and column 4, lines 16-19; program control takes place using program in memory of device 19 as seen in figure 1 and column 4, lines 19-21); and in the SPS, a data-processing control unit, connected to the SPS inputs, is provided (microcomputer within SPC 10 as seen in figure 1 and column 3, lines 45-47), which from the PC via the data interface receives the information about the key allocation of the pushbuttons in the particular key level selected () and links this information with a pushbutton applied to an SPS unit (coordination of functions of keyboard 23 for key functions of keypad 13 as seen in figure 1 and column 4, lines 59-61).

Hohner'044 does not appear to explicitly teach the keys being electrically connected directly to one of the SPS inputs at the same time that the personal computer is coupled to the SPS.

However, Frenzel'917 teaches the keys (digital keypad 28 as seen in the cover figure) being electrically connected directly (input/output line 25 as seen in the cover picture) to one of the SPS inputs (input/output 7 on central processing unit 3 as seen in the cover picture) at the same time that the personal computer (programming unit 12 as seen in the cover picture) is coupled to the SPS (input 5 and plug-in connection 13 connecting programming unit 12 to central processing unit 3 as seen in the cover picture).

Hohner'044 is analogous to Frenzel'917 because they are both drawn to the same field of invention of programmable memory control devices.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Hohner'044 and Frenzel'917 before him or her, to modify the memory-programmable control of Hohner'044 to include the simultaneous connection of the keys and the PC to the SPS of Frenzel'917 because the connection of both a computer and a set of keys could be done in a pass-through approach, as in some printer models; therefore, this would be a common practice in the art.

The motivation to combine these teachings would have been to construct a control device that is suitable for processing

Art Unit: 2184

alphanumeric information but which at the same time can be operated simply, conveniently and without programming knowledge (abstract, lines 17-19).

Therefore, it would have been obvious to combine the teachings of Frenzel'917 with those of Hohner'044 to bring about the invention described in the claim as shown above.

4. As to claim 2, Hohner'044 teaches the device as defined by claim 1, characterized in that the pushbuttons are each connected, parallel to the SPS inputs, to an internal bus of the PC, so that by means of a respective pushbutton, surface functions of the PC that are stored in memory in the PC and are simultaneously assigned to machine functions and to the key allocation can each be tripped (coordination of functions of keyboard 23 for key functions of keypad 13 as seen in figure 1 and column 4, lines 59-61).

5. As to claim 3, Hohner'044 teaches the device as defined by claim 2, characterized in that in the PC, a data processing first control unit, connected to the pushbuttons, is provided (control unit in computer housing 22 as seen in figure 1 and column 4, lines 8-9), which receives the information about the surface buttons assigned to the pushbuttons (program in control

Art Unit: 2184

device 10 is read into programming device 19 as seen in figure 1 and column 4, lines 16-18) and links it with a pushbutton signal, applied by the internal bus, to make a starting signal for the surface functions assigned to that pushbutton (coordination of functions of keyboard 23 for key functions of keypad 13 as seen in figure 1 and column 4, lines 59-61).

6. As to claim 4, Hohner'044 teaches the device as defined by claim 1, characterized in that in the PC, a data-processing second control unit is provided, which is connected to a screen of the PC and which receives the information about a key label (video controller is necessary to transfer information to the screen of a PC), corresponding to the key allocation, so that the key allocation of the particular key level selected can be displayed on the screen of the PC by means of a key label (cause a key on a screen to change upon actuation of a physical key, column 5, lines 10-15).

7. As to claim 5, Hohner'044 teaches the device as defined by claim 4, characterized in that the second PC control unit receives status information about the pushbuttons from the SPS control unit via the data interface (representation of the operating unit 12, including keypad 13, is shown on picture

Art Unit: 2184

screen 20 as seen in figure 1 and column 4, lines 55-57), and that the visual display of the key label of the individual pushbuttons is dependent on the status information about the individual pushbuttons (cause a key on a screen to change upon actuation of a physical key, column 5, lines 10-15).

8. As to claim 6, Hohner'044 teaches the device as defined by claim 4, characterized in that the pushbuttons are located in the vicinity of the screen of the PC in such a way that a direct relationship with the key label and/or pushbutton status information on the screen can be established by the user of the device (representation of the operating unit 12, including keypad 13, is shown on picture screen 20 as seen in figure 1 and column 4, lines 55-57; cause a key on a screen to change upon actuation of a physical key, column 5, lines 10-15).

9. As to claim 7, Hohner'044 teaches the device as defined by claim 4, characterized in that the software in the PC is embodied such that the key label can be displayed in reserved areas of the screen that are not coverable by other display functions (cause a key on a screen to change upon actuation of a physical key, column 5, lines 10-15).

Art Unit: 2184

10. As to claim 8, a central memory unit is inherent to the functionality of a PC.

Hohner'044 and Frenzel'917 do not appear to explicitly teach the device as defined by claim 1, characterized in that in the PC, for each selectable key level one data matrix is stored, in which matrix each of the pushbuttons is assigned a data line containing information that is allocated in columns to different purposes.

While Hohner'044 does teach the storage of data pertaining to the pushbuttons (programming device 19 reloads modified program to memory of the control device 10 as seen in figure 1 and column 4, lines 19-23; coordination of functions of keyboard 23 for key functions of keypad 13 as seen in figure 1 and column 4, lines 59-61), the use of a data matrix for each selectable key level, in which matrix each of the pushbuttons is assigned a data line containing information that is allocated in columns to different purposes, is an alternative arrangement of the art.

At the time of invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Hohner'044 and Frenzel'917 before him or her, to incorporate the device as defined by claim 1, characterized in that in the PC, for each selectable key level one data matrix is stored, in which matrix each of the pushbuttons is assigned a data line containing

Art Unit: 2184

information that is allocated in columns to different purposes because the use of a data matrix in memory is a common practice in the art.

The motivation to combine these teachings would have been to facilitate linking the functionality of the controller with the computer keys (coordination of functions of keyboard 23 for key functions of keypad 13 as seen in figure 1 and column 4, lines 59-61).

Therefore, it would have been obvious to modify the teachings of Hohner'044 and Frenzel'917 to bring about the invention as claimed above.

11. As to claim 9, Hohner'044 teaches the device as defined by claim 8, characterized in that in the PC, a central control element for level control is provided, which acts as a data shunt between the central memory unit, the first PC control unit embodied as a function assignment, the second PC control unit embodied as a key display, and the SPS control unit embodied as a flag assignment (CPU on a front-side bus linking components is inherent in a computer).

12. As to claim 10, Hohner'044 teaches the device as defined by claim 9, characterized in that in the data matrix, each

Art Unit: 2184

pushbutton has one SPS function flag, corresponding to the allocation of the pushbutton in the selected key level (operating functions in keypad 13 as seen in figure 1 and column 3, lines 37-39), one SPS feedback flag (actuation of key activates corresponding function, column 5, lines 16-19), one piece of label information (appearance of corresponding key, column 4, lines 11-15), and one PC function identification, assigned to the allocation of the pushbutton, of the surface function (operating function imparted to each key on the keypad, column 2, lines 13-16); and the first PC control unit for function assignment receives the information on PC function identification (keys on keyboard given operating functions, column 2, lines 32-34), the second PC control unit for key display receives the information on labeling (appearance of corresponding key, column 4, lines 11-15), and the SPS control unit for flag assignment receives the information on SPS function flags and SPS feedback flags via the control element level control from the central memory unit (programming device 19 reloads modified program to memory of the control device 10 as seen in figure 1 and column 4, lines 19-23).

Response to Arguments

Art Unit: 2184

13. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Referring to claim 1, Applicant argues that in light of the amendment to the claim stating that both the keys on the operating means for operating the inputs and outputs of the SPS and the personal computer are coupled to the SPS at the same time, the rejections under section 102 and section 103 are invalid.

Examiner submits that these issues are ultimately moot in light of the incorporation of Frenzel'917 into the matter of the rejection of claim 1 under 35 U.S.C. 103.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action

Art Unit: 2184

is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN B. ROCHE whose telephone number is (571)270-1721. The examiner can normally be reached on 8:30 am - 5:00 pm, M-F EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Tsai can be reached on 571-272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2184

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JR

/Henry W.H. Tsai/
Supervisory Patent Examiner, Art Unit 2184